Australian Bureau of Statistics

1350.0 - Australian Economic Indicators, Jun 1999

ARCHIVED ISSUE Released at 11:30 AM (CANBERRA TIME) 07/07/1999

Feature Article - Experimental Composite Leading Indicator March Quarter 1999

MOST RECENT MOVEMENTS

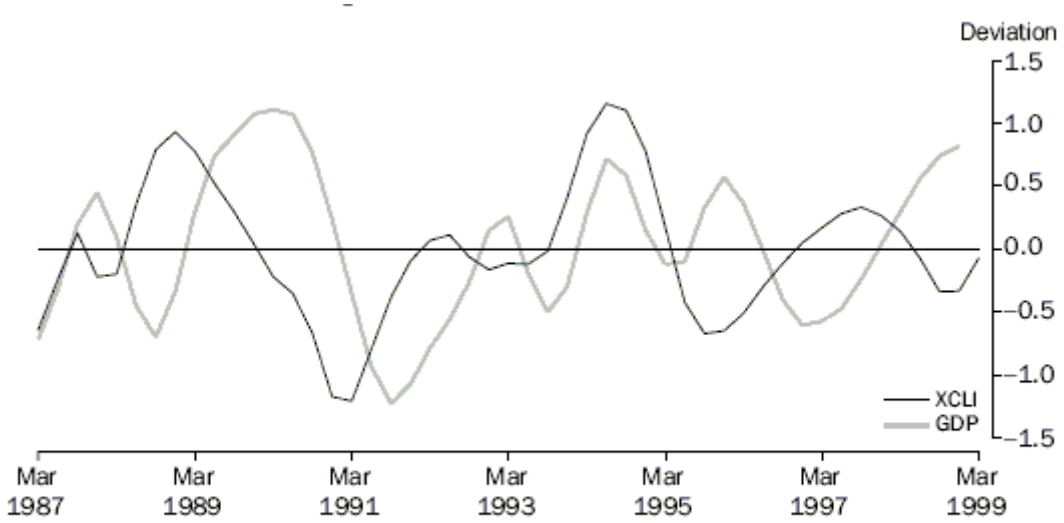
In the March quarter 1999, the experimental Composite Leading Indicator (XCLI) rose 0.25, following a small rise (0.02) in the December quarter 1998. The largest positive contribution came from the All Industrials component while the largest negative contribution came from the job vacancies component (0.10 and –0.07, respectively).

Prior to the rises in the March quarter 1999 and the December quarter 1998, the XCLI showed four consecutive falls from the September quarter 1997 peak. The recent rises in the XCLI give a provisional trough in the September quarter 1998. That is, there is provisional evidence that the contractionary stage of the XCLI has ended and its expansionary stage has commenced.

In the December quarter 1998, the quarterly growth of the trend of GDP (0.98%) remains above its historical long-term trend growth rate (0.91%). However, the rate of growth in this deviation decelerated for the second
consecutive quarter (refer to last row of table 1, p4).

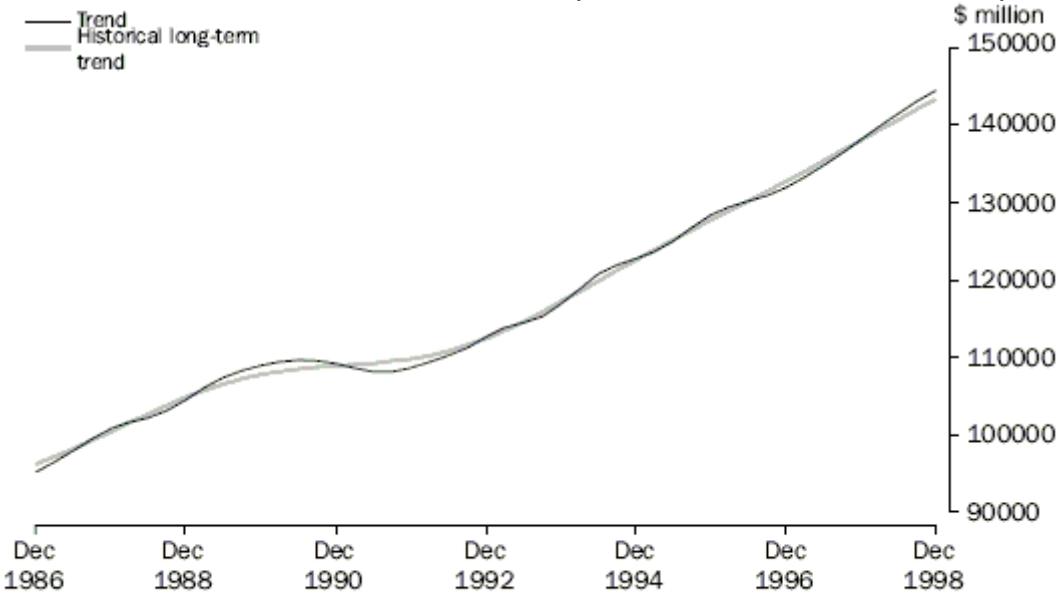
Based on historical performance since the early 1970's, the average lead time between peaks in the XCLI and peaks in the reference series GDP is two quarters, with a range of one to six quarters. The second consecutive quarterly deceleration in the rate of growth of GDP deviation from historical long-term trend (December quarter 1998) comes five quarters after the most recent peak in the XCLI (September quarter 1997).
The deceleration and the historical performance of the XCLI suggest the deviation of the trend of GDP from its historical long-term trend may be peaking. (The March quarter 1999 national accounts are scheduled for release on 2 June 1999.)

1. EXPERIMENTAL COMPOSITE LEADING INDICATOR (XCLI) AND, GDP (Chain volume measure)- Deviation from historical long-term trend



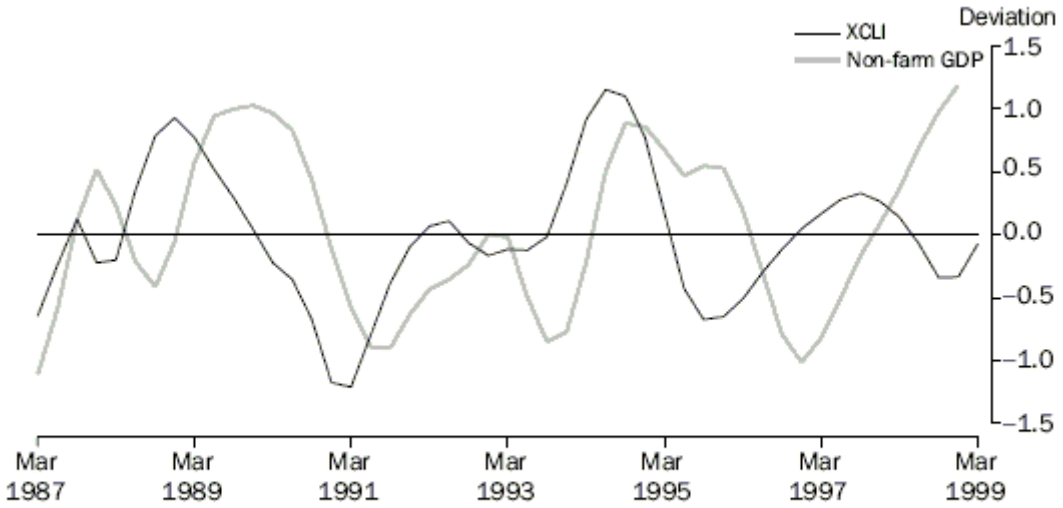
Note: In the December quarter 1998 the historical long-term trend growth rate of GDP is 0.91% per quarter and the trend growth rate is 0.98% per quarter.

2. GDP, CHAIN VOLUME MEASURE (REFERENCE YEAR 1996-97)



Note: In the December quarter 1998, the historical long-term trend growth rate of GDP is 0.91% per quarter and the trend growth rate is 0.98% per quarter.

3. EXPERIMENTAL COMPOSITE LEADING INDICATOR (XCLI) AND, NON-FARM GDP(Chain volume measure)-
Deviation from historical long-term trend



Note: In the December quarter 1998 the historical long-term growth rate of non-farm GDP is 0.87% per quarter and the trend growth rate is 1.09% per quarter.

Table 1: XCLI and GDP (Chain volume measure - reference year 1996–97)

	Dec 1997	Mar 1998	Jun 1998	Sep 1998	Dec 1998	Mar 1999
XCLI	0.27	0.14	0.07	0.34	0.33	0.07
Change from previous quarter	0.05	0.13	0.21	0.27	0.02	0.25
GDP Trend (Chain volume measure) $m	138,091	139,780	141,474	143,018	144,426	n.a.
Percentage change from previous quarter	1.25	1.22	1.21	1.09	0.98	n.a.
GDP Long-term trend (Chain volume measure) $m	138,045	139,366	140,684	141,965	143,253	n.a.
Percentage change from previous quarter	0.98	0.96	0.95	0.91	0.91	n.a.
GDP Deviation from long-term trend)Chain volume measure)	0.03	0.3	0.56	0.74	0.82	n.a.
Change from previous quarter	0.27	0.26	0.26	0.18	0.08	n.a.

REFERENCE SERIES

The reference series for the XCLI is the business cycle of Australia which is defined as the deviation of the trend in the chain volume measure of GDP from its historical long-term trend. Graph 1 shows the chain volume measure of GDP and the XCLI expressed as deviations from their historical long-term trends (the deviation measure is outlined in Endnote 1). Graph 2 shows the trend chain volume measure of GDP compared with its historical long-term trend.

Based on the December quarter 1998 national accounts data, the first quarter of the most recent expansionary stage of the business cycle was the March quarter 1997 and this stage continued in the December quarter 1998. In each of the eight quarters over this period, the growth rate in trend GDP was higher than the historical long-term trend of GDP.

NON-FARM GDP Graph 3 provides non-farm GDP (chain volume measure) expressed as a deviation from its historical long-term trend, to assist separate assessment of farm and non-farm effects. This is provided because one deficiency of the XCLI noted in a review (see Feature Article - Review of the Experimental Composite Leading Indicator, Australian Economic Indicators, (1350.0), July 1997) is its failure to include a series providing a good leading indicator of the farm cycle. As shown in Graph 1, the previous peak in the GDP reference series was in the September quarter 1995. This peak was largely attributable to the effects of a good farm season in 1995-96, which was not predicted by the XCLI (see Feature Article - Impact of the 1995-96 Farm Season on Australian Production, Australian Economic Indicators, (1350.0), January 1997).

A review of the performance of the XCLI and its components was published in the July 1997 Australian Economic Indicators.

Table 2: Contributions to quarterly changes in the XCLI

	Mar 1998	Jun 1998	Sep 1998	Dec 1998	Mar 1999
Trade factor	0.08	0.07	0.15	0.09	0.04
United States GDP	0	0	0.03	0.04	0.04
Housing finance commitments	0.03	0.04	0.01	0.01	0.01
Job vacancies	0	0	0	0	0
All industrials index	0.03	0	0.1	0	0.1
Real interest rate (inverse lagged four quarters)	0	0	0	0	0
Production expectations (lagged one quarter)	0.04	0.03	0.04	0.08	0.06
Business expectations (lagged one quarter)	0.08	0.12	0.08	0.02	0.08
Total XCLI, change from previous quarter	0.13	0.21	0.27	0.02	0.25

ANALYSIS OF COMPONENT INDICATORS: DEVIATION FROM HISTORICAL LONG-TERM TREND

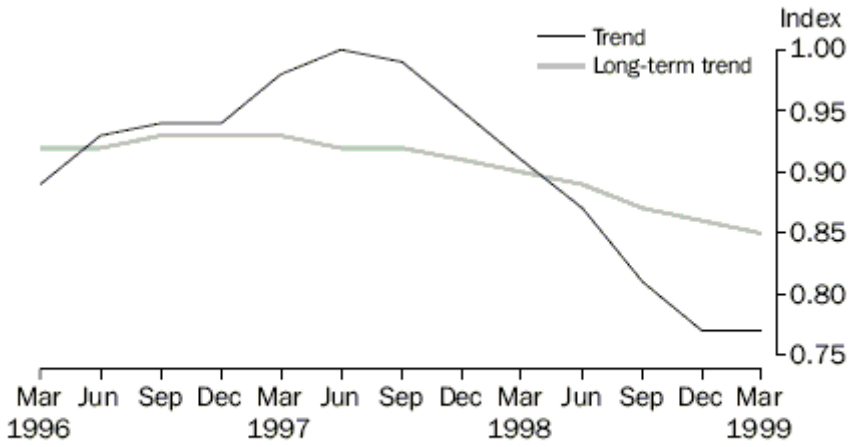
In the March quarter 1999, six of the eight components made positive contributions to the quarterly change in the XCLI and two components made negative contributions (expressed as deviation from the historical long-term trend, see Table 2). Graphs 4 to 11 show each component's trend and historical long-term trend.

Positive contributions. The components making positive contributions to the quarterly change in the March quarter 1999 XCLI are the All Industrials index (0.10 points, Graph 8), business expectations (0.08 points, Graph 11), production expectations (0.06 points, Graph 10), trade factor (0.04 points, Graph 4), United States GDP (0.04 points, Graph 5) and the inverted, lagged real interest rate (0.02 points, Graph 9).

Negative contributions. The components making negative contributions to the quarterly change in the March quarter 1999 XCLI are job vacancies (-0.07 points, Graph 7) and housing finance commitments (-0.01 points, Graph 6).

Trade factor The trade factor is defined as the ratio between commodity prices (in terms of Special Drawing Rights) and the price index for imported materials used by Australian producers. This ratio gives an early estimation of the terms of trade. In the March quarter 1999 the trend of the trade factor was flat, following six consecutive quarterly falls. Because the historical long-term trend continued to fall, the negative deviation of the trend declined. Thus, the trade factor made a positive contribution to the March quarter 1999- its first positive contribution since the June quarter 1997 and a marked change from the December quarter 1998 when the trade factor component was the largest negative contributor.

4. TRADE FACTOR

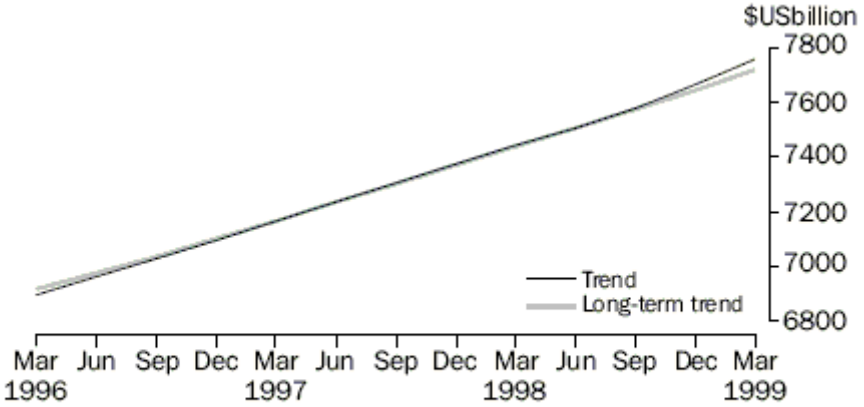


Source:ABS 6411.0, RBA Bulletin.

The trade factor series has been affected by a firming in commodity prices (measured in terms of Special Drawing Rights), and a fall in the
price index for imported materials used by Australian producers in the March quarter 1999. The fall in the price index for imported materials is
the second consecutive fall and was due largely to falls in the price of crude oil.

United States GDP The trend of United States GDP has continued its recent pattern of strong growth in the March quarter 1999. Since the June quarter 1998
trend growth has been stronger than historical long-term trend growth, causing a rise in the deviation over these three quarters. As a
consequence the United States GDP component has made a positive contribution to the XCLI over the last three quarters. Furthermore, there
has been an acceleration in the rate of rise of both the trend and historical long-term trend since the June quarter 1998.

5. UNITED STATES GDP, Chain volume measure (Reference year 1992)



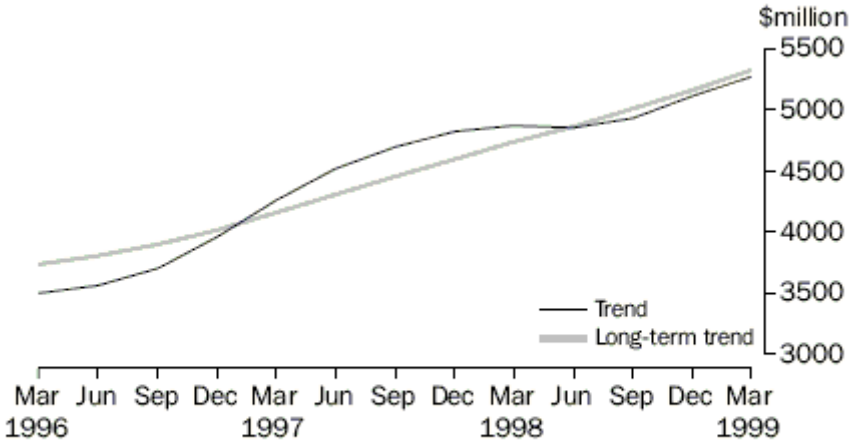
Source: US Bureau of Economic Analysis.

Secured housing finance commitments

The historical long-term trend of secured housing finance commitments has been rising continuously since the September quarter 1995. While
the trend has also been mostly rising over this period, the trend has been below its historical long-term trend since the March quarter 1998.

However, the deviation between the two has been only quite small, with little change during the last three quarters. As such, the secured housing
finance commitments has only made small relative contributions to the XCLI over this period, with a small negative contribution for the March
quarter 1999.

6. SECURED HOUSING FINANCE COMMITMENTS

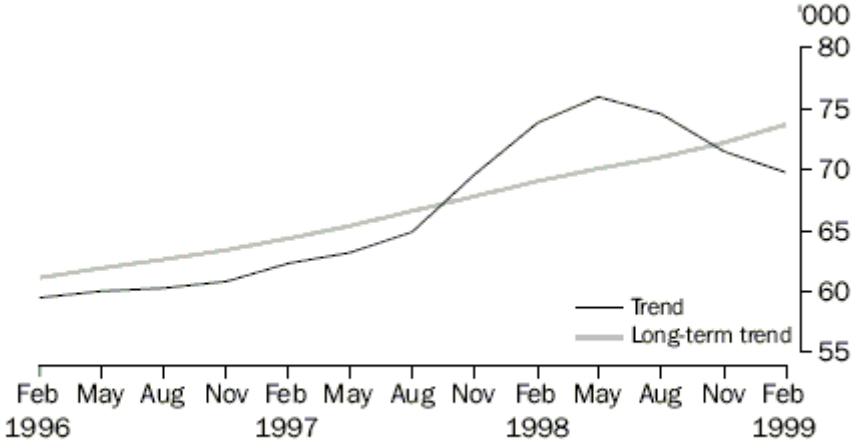


Source:ABS 5671.0.

Job vacancies Note that the job vacancies series are referenced to the middle month of a quarter.

The trend of the number of job vacancies has been falling steadily since May 1998. This pattern contrasts with the steadily rising historical
long-term trend, which has not fallen since May 1992. The trend recorded a turning point in May 1998, and it moved below the historical
long-term trend in November 1998. The job vacancies component has provided three consecutive negative contributions to the XCLI, the last
two of these being relatively large.

7. JOB VACANCIES



Source:ABS 6354.0.

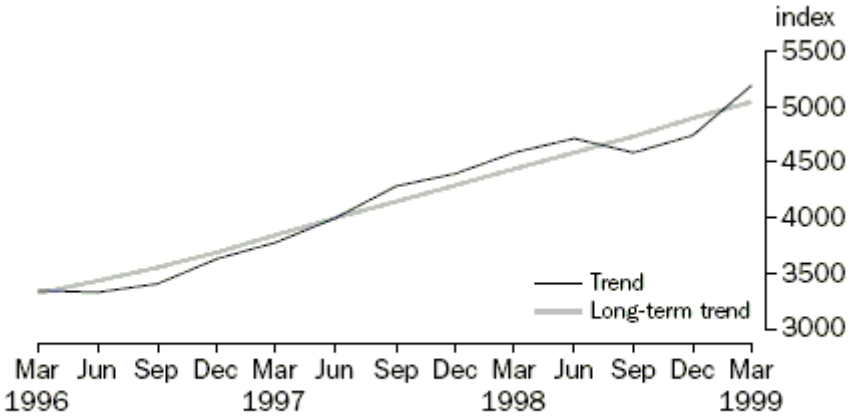
All industrials index

In the September quarter 1998 the trend series of the All Industrials index moved below its historical long-term trend, after being above its historical long-term trend since the June quarter

1997. In the December quarter 1998 there was little change in this negative deviation. However, in the March quarter 1999 the trend series moved sharply above its steadily rising historical long-term trend, resulting in a positive deviation.

As a consequence, the All Industrials component made a relatively large positive contribution to the movement in the XCLI in the March quarter 1999, in contrast to the zero (0.00) contribution in the December quarter 1998, and a relatively large negative contribution in the September quarter 1998.

8. ALL INDUSTRIALS INDEX



Source:Australian Stock Exchange.

Real interest rate

(The XCLI uses the inverse of the deviation between the trend and the historical long-term trend of the real interest rate, lagged four quarters.
Therefore it is the March quarter 1998 movement in the inverse of the real interest rate that contributes to the March quarter 1999 movement
in the XCLI.)

Since the December quarter 1997, the trend of the real interest rate component has declined more rapidly than its historical long-term trend.
Thus, the real interest rate component (once inverted) has contributed five consecutive positive contributions to the XCLI, albeit quite small.

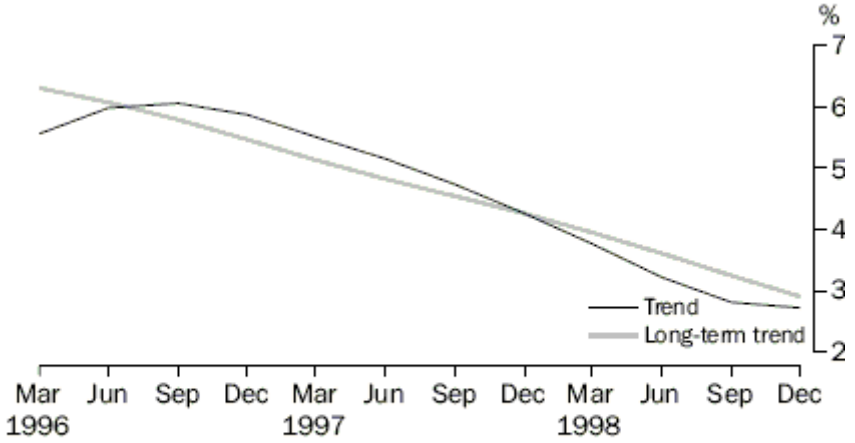
Generally, from the December quarter 1997 to the September 1998 the fall in the original real interest rate series has been due to an
accelerating rise in the domestic final demand chain volume price index. In the December quarter 1998 the domestic final demand chain volume
price index fell. However, this fall was more than offset by a continued fall in the two year treasury bond rate. Thus, the original real interest
rate continued to fall in the December quarter 1998.

In the March quarter 1998, the trend series fell more rapidly than its historical long-term trend, thus the real interest rate component made a
positive contribution to the March quarter 1999 movement in the XCLI.

Following a widening in the negative deviation between the trend and its historical long-term trend in the June quarter 1998 and the September
quarter 1998, the deviation narrowed in the December quarter 1998. These movements indicate that this component is likely to make two
consecutive positive contributions, followed by a negative contribution in forthcoming generations

of the XCLI.

9. REAL INTEREST RATE



Source:ABS 5206.0, the Treasury.

Production and business expectations

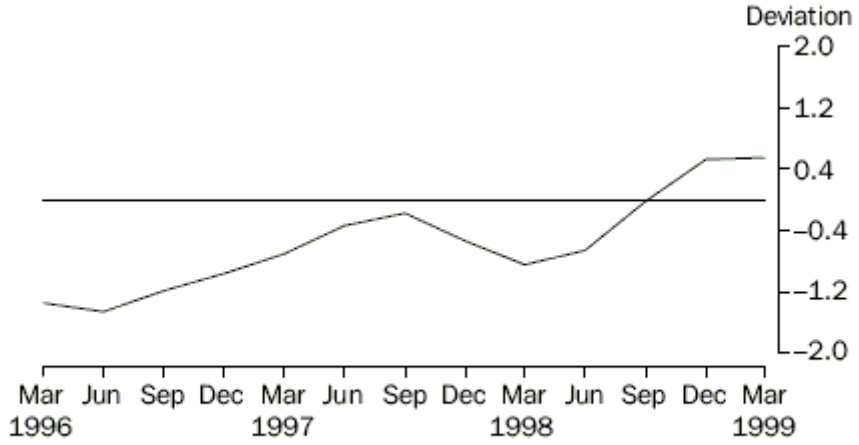
(Note: These components are lagged one quarter in the compilation of the XCLI. Like other XCLI components, the production expectations and business expectations series have been smoothed and standardised to display cyclical behaviour. However, these series are not thought to exhibit long-term trend growth.)

In the March quarter 1999, trend production expectations rose for the second consecutive quarter. This rise follows decelerating falls in the June and September quarters 1998. As a result of the rise in the December quarter 1998, this component made a positive contribution to the March quarter 1999 movement in the XCLI, the third consecutive
positive contribution.

Trend business expectations rose in the March quarter 1999, the first rise since the December quarter 1997. This rise marks a period of rapid improvement in business expectations since the June quarter 1998. The improvement in the December quarter 1998 contributed to a relatively large positive contribution to the XCLI for the March quarter 1999.

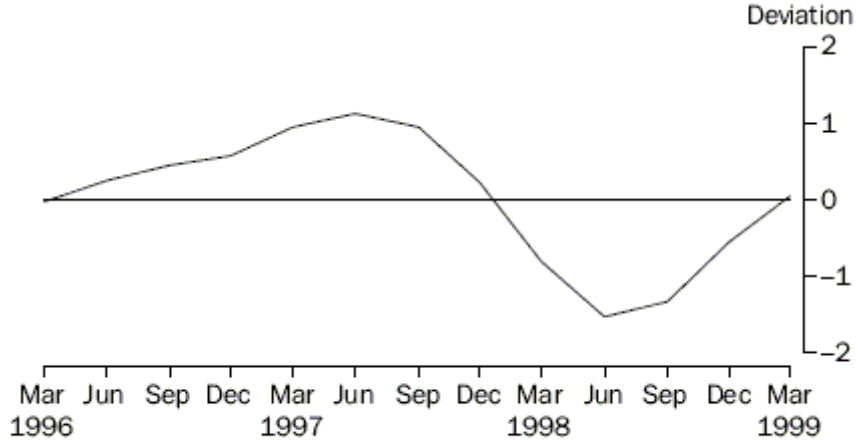
The source of these expectations series is the Australian Chamber of Commerce and Industry, and Westpac Banking Corporation, Survey of Industrial Trends. The ABS also compiles business expectations data. However, these cannot yet be included as a component of the XCLI due to the insufficient length of the time series.

10. PRODUCTION EXPECTATIONS, Trend



Source:ACCI and Westpac, Survey of Industrial Trends.

11. BUSINESS EXPECTATIONS, Trend



Source:ACCI and Westpac, Survey of Industrial Trends.

METHODOLOGY AND INTERPRETATION

The XCLI has been developed to supplement, rather than to compete with, existing forms of economic analysis and forecasting. It is still considered to be experimental and will continue to be published each quarter in Australian Economic Indicators (i.e. in the March, June, September and December issues).

The XCLI summarises the business cycles present in a selection of economic indicators, which had typically shown turning points ahead of the business cycle in GDP from the early 1970s to the early 1990s. Because the evolution of each expansion and contraction in activity presents a unique combination of features, none of the individual component indicators has had an unvarying or perfectly stable leading relationship with GDP. However, when combined to form the XCLI, their performance, as a group, is more stable.

The lead time of the XCLI with respect to the reference cycle still varies. Past performance of the XCLI indicates that it led turning points in the GDP growth cycle by between one and six quarters with the average being around two quarters.

If the lead behaviour continues, the XCLI would assist in the early detection of turning points in the business cycle in GDP. Note that the XCLI can only provide early signals of turning points in the business cycle. It does not predict the level of GDP, nor signal recessions or recoveries.

LONGER TIME SERIES AND FURTHER DETAILS

Details of the compilation of the XCLI index can be found in An Experimental Composite Leading Indicator of Australian Economic
Activity, (1347.0), June 1993, and in the feature articles published in Australian Economic Indicators (1350.0) in August, October 1992 and
May 1993.

Longer time series of the data presented in this XCLI note are now available on PC AUSSTATS. For further information about these
statistics, contact Craig Stevens (02) 6252 5795.

ENDNOTE

1. The unit of measurement varies between XCLI components. For example, the real interest rate is measured as a per cent, job vacancies
as a number, United States GDP in dollar terms and the trade factor is measured in index number form. Each component is therefore
standardised to make their contributions to the XCLI comparable.

The standardisation procedure gives each XCLI component an average value of 1. The variation of each component about its average is also
standardised, so that the average deviation also equals 1. Chain volume GDP (the reference series) is also standardised in the same way.

Graphs 1 and 3 use the standardised forms of the XCLI, GDP and non-farm GDP series. The graphs show the deviation of the standardised
series from their respective historical long-term trends. Because of the standardisation procedure, the deviation measure has no particular unit
(i.e. it is not measured in dollars, or per cent change, or any other real world unit).

This page last updated 8 December 2006